



# ***TCS***

## ***Preliminary Design Review***

### ***Part 2***

## ***Section 6***

### ***Route & Payload Planner CSCI***

**3-4 February 1998**

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# ***Design Review Topics***

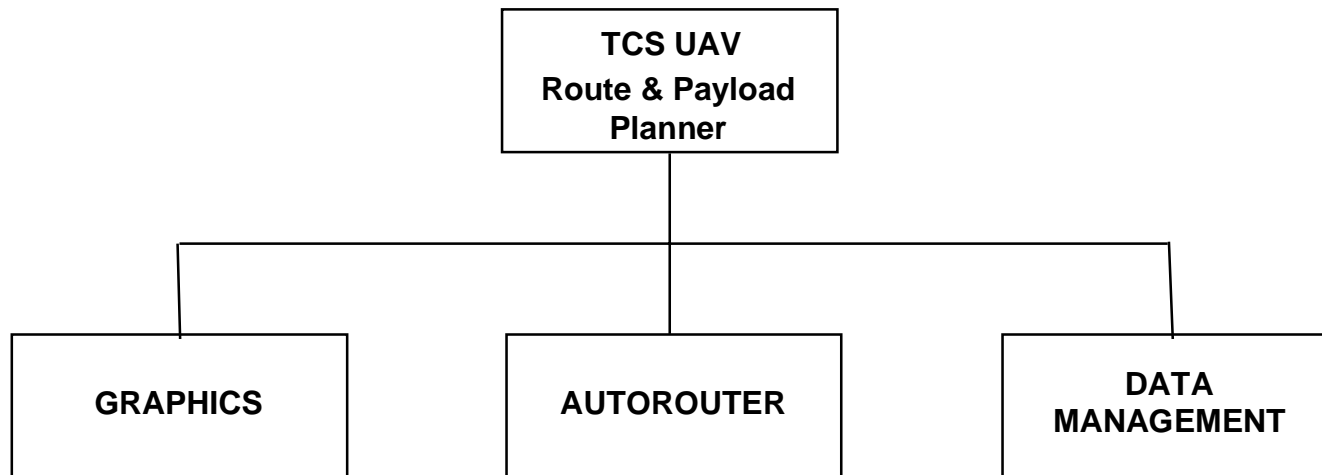
- **Top Level CSC Design**
- **TCS Data Server & UIM Integration**
- **TCS Route & Payload Planner Sizing**
- **TCS Route & Payload Planner Data Overview**
- **TCS Route & Payload Planner Directory Structure**



# ***Top Level CSC Design***

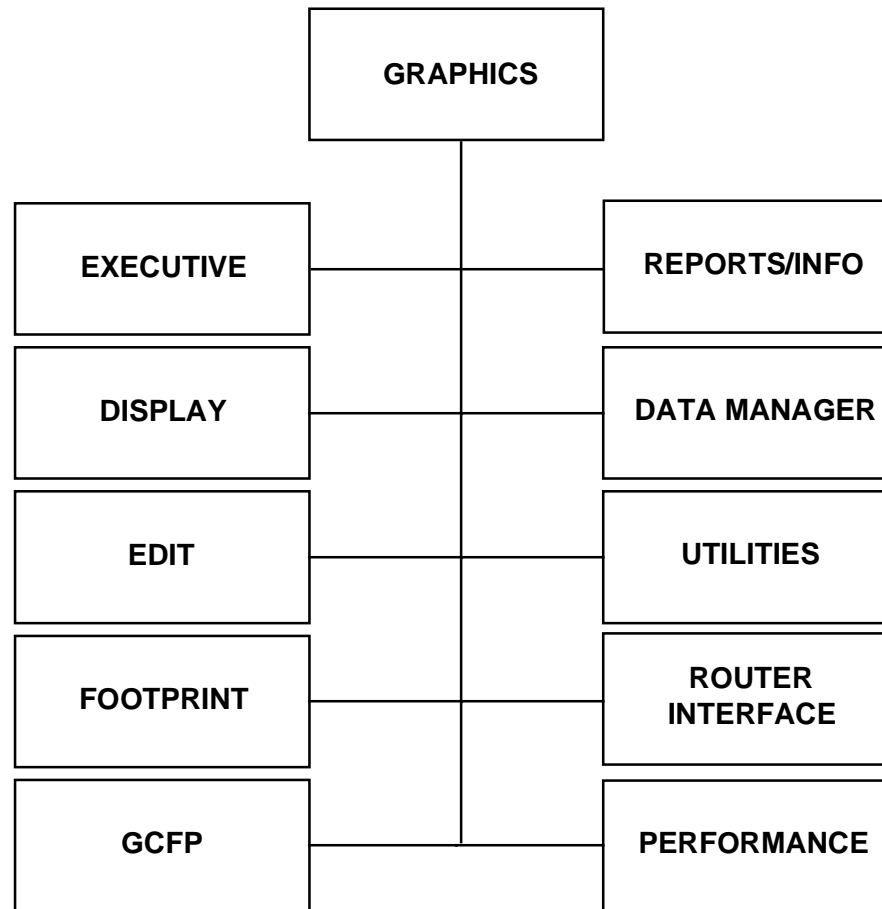


# ***S/W Architecture – TLCSCs***



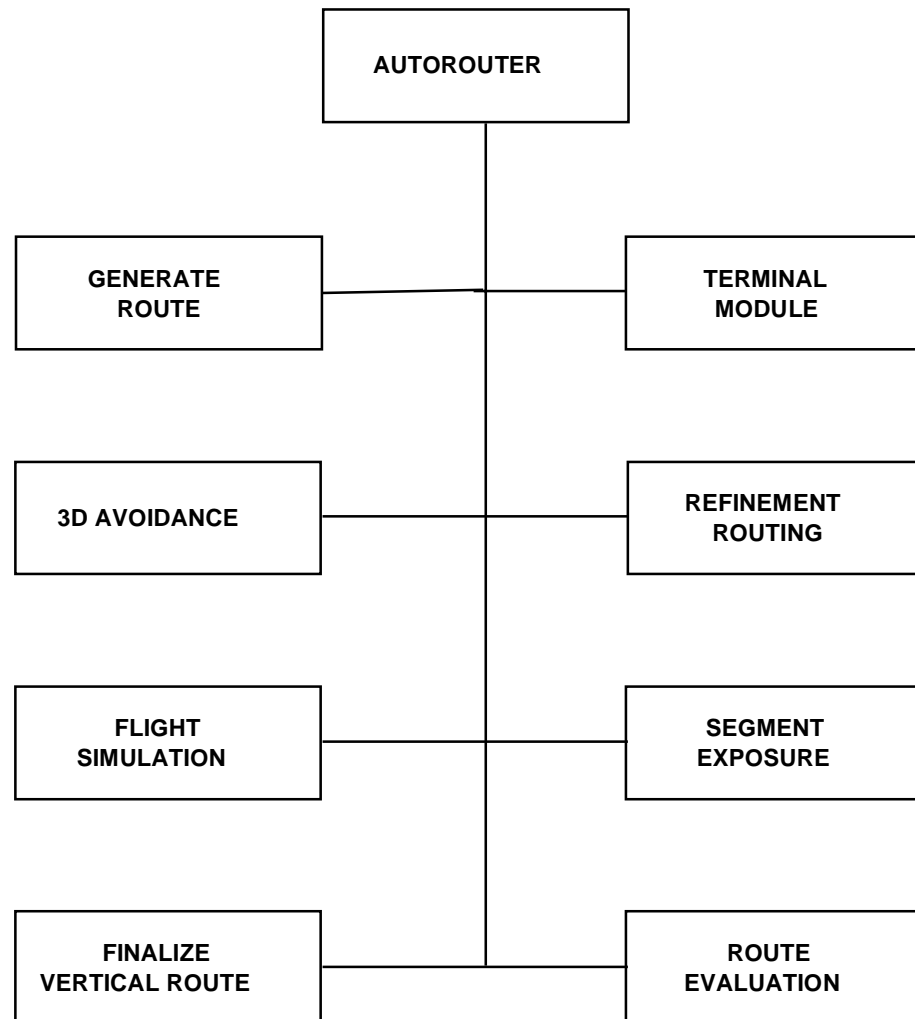


# ***S/W Architecture – Graphics***



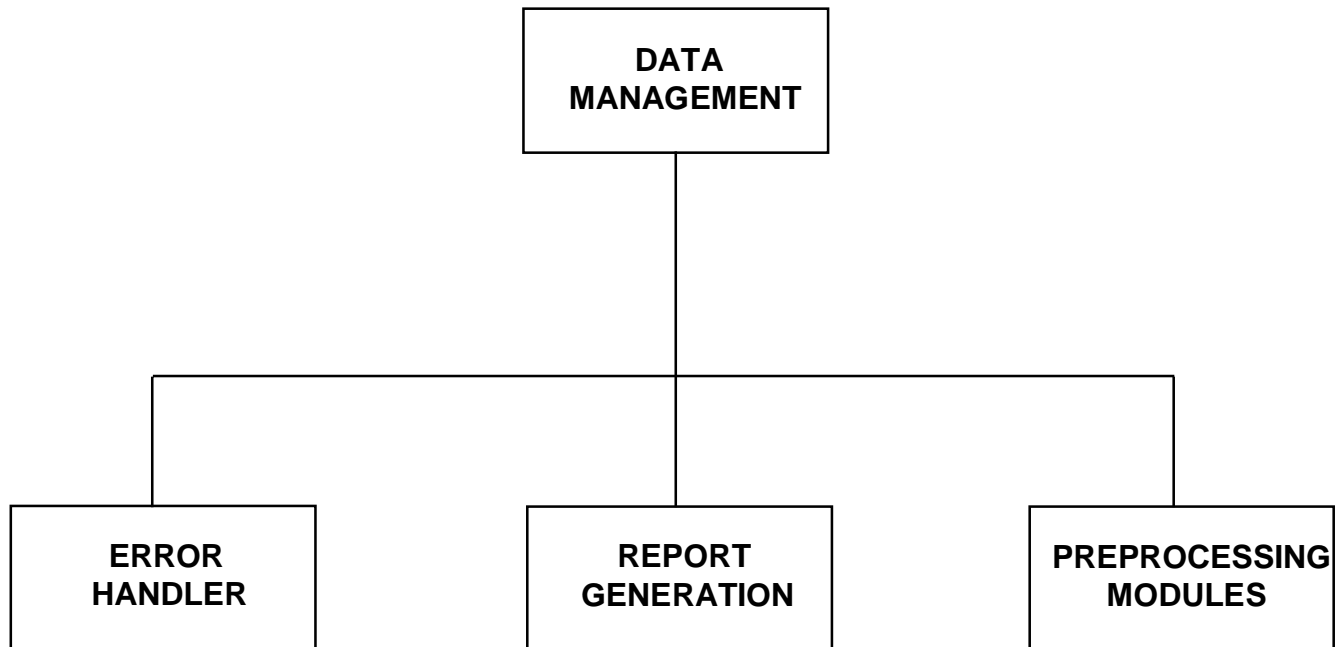


# ***S/W Architecture – Autorouter***



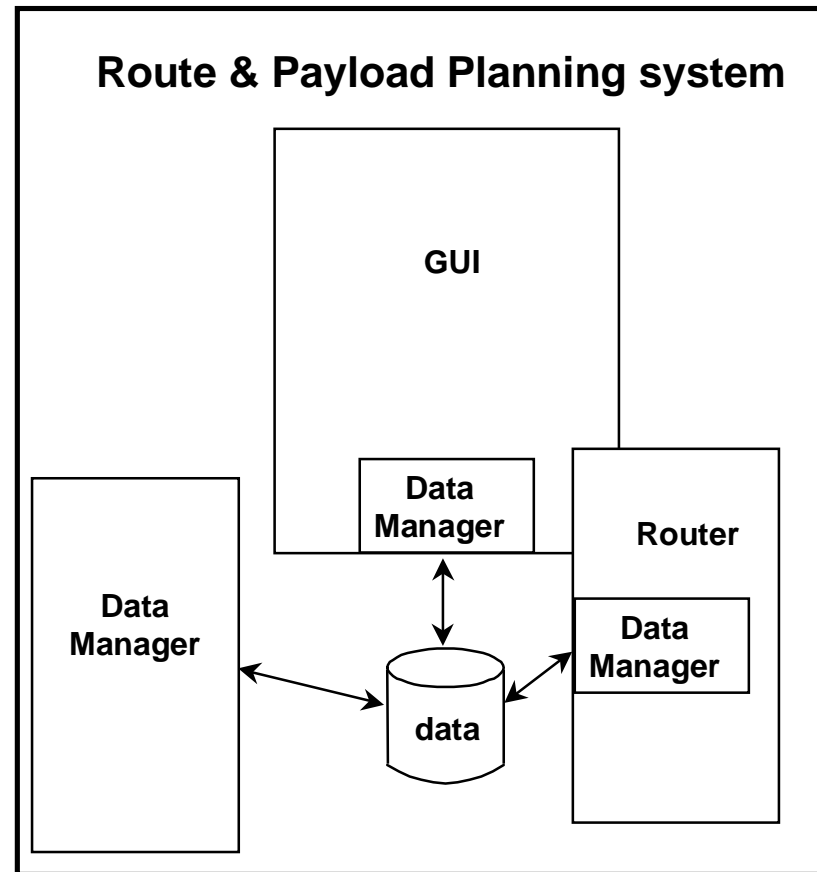


# ***S/W Architecture – DM***





# ***Functional Architecture***





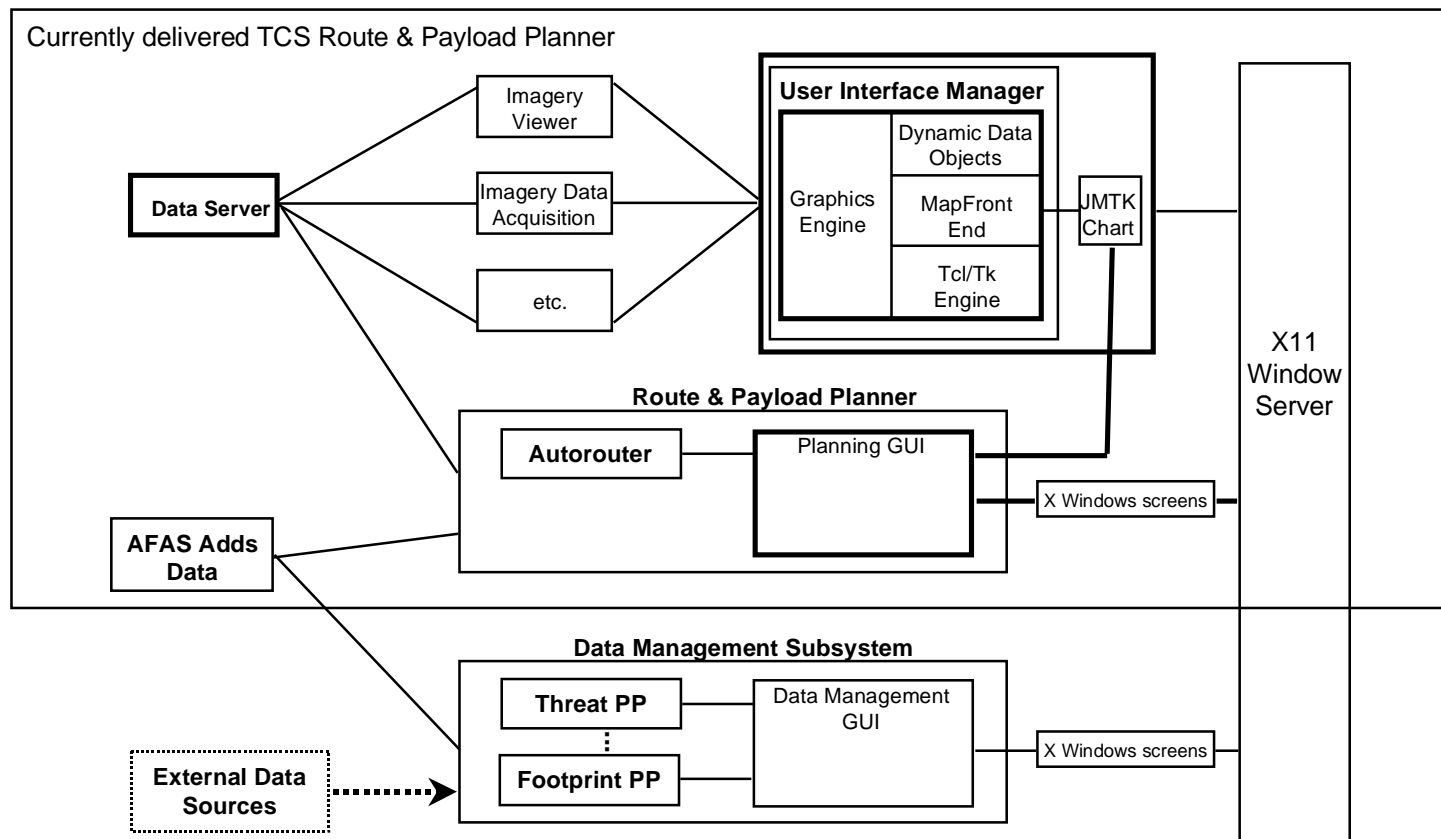


# ***TCS Data Server & UIM Integration***



# ***TCS Data Server & UIM Integration***

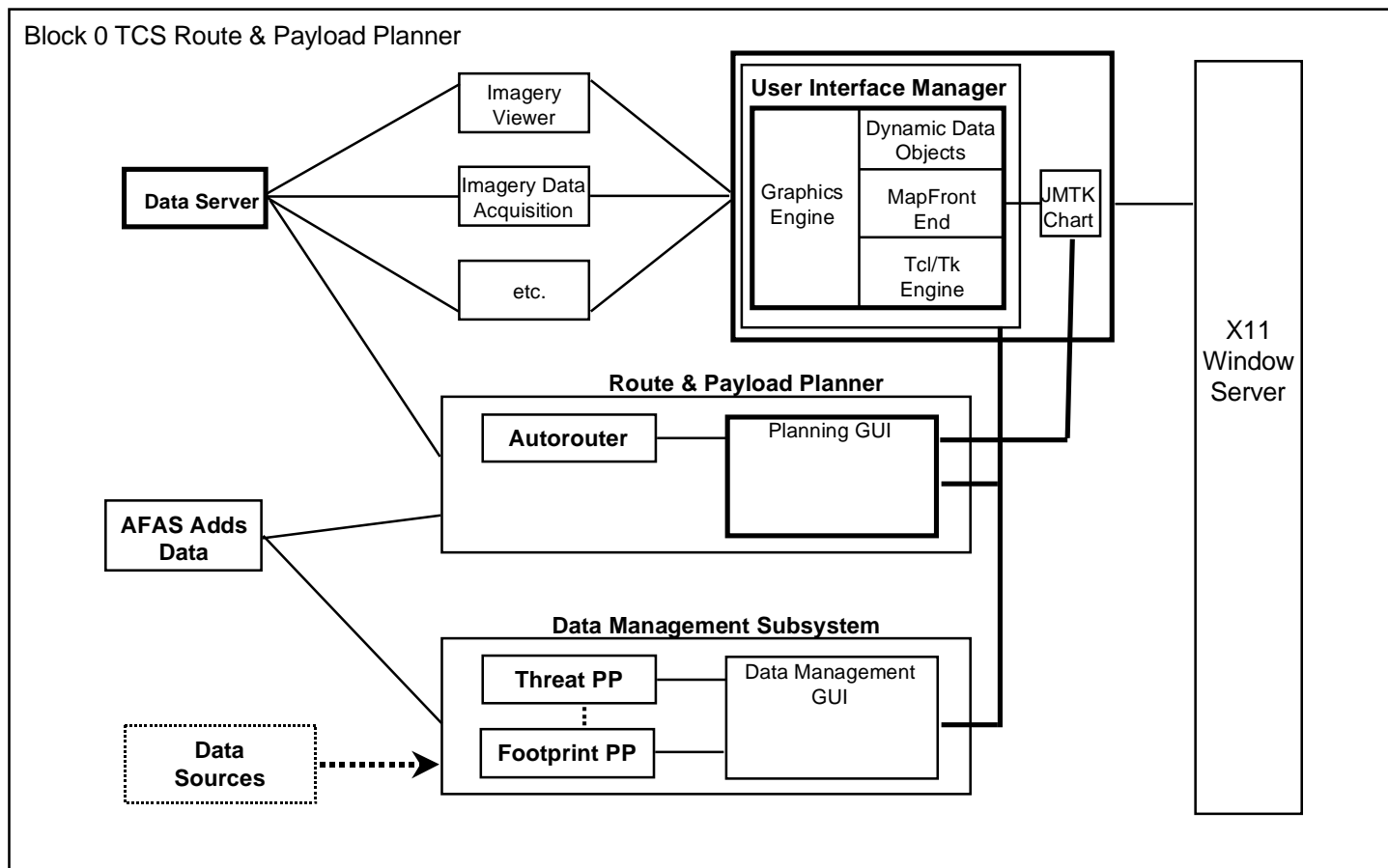
- Integrated for Data Exchange, Integrated to JMTK Chart





# ***TCS Data Server & UIM Integration (con't)***

- Integrate Data Manager and UIM





# ***TCS Data Server & UIM Integration (con't)***

- **Data Manager Functions will be merged into the TCS RPP**
- **Data will be migrated from static sources to DII sources**
  - **Threat data will be DII in Block 0**
- **The user interface will be changed from calls to X & Motif to calls to the UIM**



# ***TCS Route & Payload Planner Sizing***



# ***TCS Route & Payload Planner Sizing***

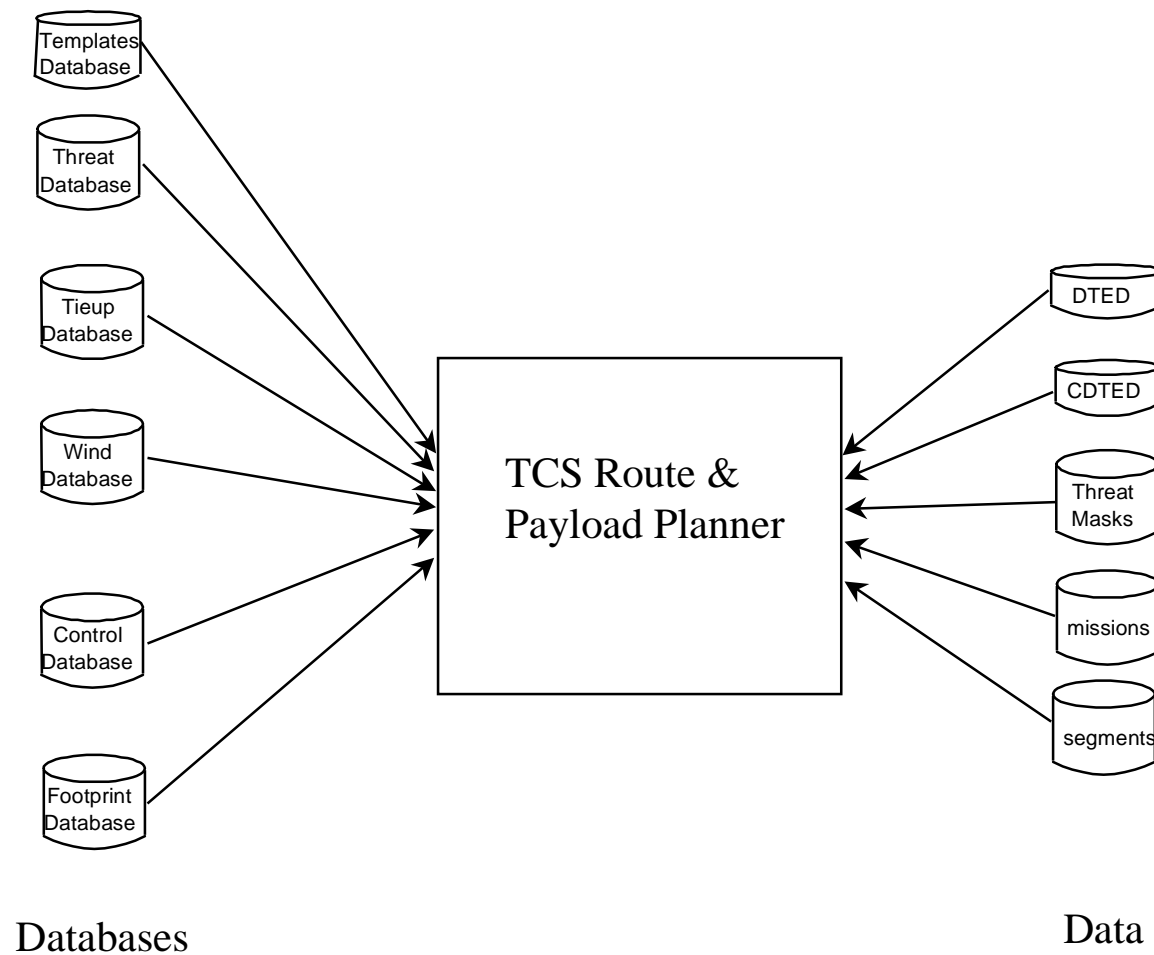
- **Total disk size as delivered (including all subdirectories)**
  - ~ 338 Megs
  - This can grow as more missions and data is stored.
- **Executables disk size**
  - GUI is ~ 4.5 Megs
  - Router is ~ 10 Megs
  - Three small report programs about 1 Meg each
- **Executables memory size**
  - Gui is variable ~ 40 Megs  
(depends on what is loaded)
  - Router is ~ 67 Megs



# ***TCS Route & Payload Planner Data Overview***



# Data Overview







# ***TCS Route & Payload Planner Directory Structure***



# ***TCS Route & Payload Planner Directory Structure***

- Base directory is `$TCS_HOME/TCSRPP`
- Sub-Directories include
  - control
  - fpdb
  - thdb
  - tieup
  - wind
  - template
  - missions
  - segments
  - mask
  - compdted



## ***Sub-Directory Contents (con't)***

- **control**
  - **One control database per aircraft variant**
    - **Each is a sub-directory of the control database**
  - **Contains Air Vehicle parameters**
    - **Flight Performance tables**
  - **Will require about 1+ Megs of storage per aircraft variant**



## ***Sub-Directory Contents (con't)***

- **fpdb**
  - **One Footprint Database per aircraft type**
    - **Each is a sub-directory of the control database**
    - **predator and outrider are the currently defined aircraft types**
  - **Contains RCS related information**
    - **RCS data used by the router**
    - **Footprint data files displayed by the GUI**
  - **Storage requirements vary widely with number of footprints generated and complexity of footprints resulting from the RCS data**



## ***Sub-Directory Contents (con't)***

- **thdb**
  - **Threat Database**
    - **Software is capable of supporting multiple threat databases**
    - **Block 0 will get threat data from DII**
  - **Can require 5+ Megs of storage for 50,000 threat sites**



## ***Sub-Directory Contents (con't)***

- **tieup**
  - **Contains planning elements**
    - **Contains Airbases**
    - **Contains Targets**
    - **Contains GDTs**
  - **Requires about 2 Megs of storage**



## ***Sub-Directory Contents (con't)***

- **wind**
  - **Winds database**
  - **Software can also support forecast winds file of the same format**
  - **Requires about 12 Megs of storage**
- **template**
  - **Used internally by the mission planner**
  - **Requires about 190 K of storage**



## ***Sub-Directory Contents (con't)***

- **missions**
  - **Central location for all mission storage**
  - **These are the complete missions stored in ASCII text formatted files**
  - **Storage requirements vary with size of missions**
- **segments**
  - **Central location for storage of all mission segments**
  - **Segments are imported/exported into missions**
  - **Storage requirements vary with size of segments**





## ***Sub-Directory Contents (con't)***

- **mask**
  - **Terrain Mask database**
    - **Masks are stored by location in a directory structure which parallels the Level 1 DTED directories**
    - **Each mask requires about 472 K of storage**
- **compdted**
  - **Compressed DTED database**
    - **The directory structure parallels the Level 1 DTED directories**
    - **Requires about 260 Megs of storage**